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Foreword

IN INTRODUCING to researchers in engineering the present volume of the TRANSACTIONS of The American Society of Mechanical Engineers, an explanation of the changes which have taken place in its physical appearance and its contents is due.

CHANGE IN PUBLICATION POLICY

A revision of the publication policy of the A.S.M.E. consummated in 1928 resulted in important changes in the TRANSACTIONS. Physically, the page size was increased to conform to that of the Society's journal *Mechanical Engineering*. In order to bring the published papers of the Society more quickly to its members, and to bring to each member only the papers in which he had an interest, the old plan of publishing once a year a single volume, expensively bound and sent without charge to every member of the Society, was abandoned in favor of a radically different scheme.

The new plan provides for the issuing in pamphlet form of groups of selected papers presented at meetings and other miscellaneous contributions. These pamphlets, forming sections of the TRANSACTIONS, are issued periodically at the rate of about three a month, and each section is sponsored by one of the Society's professional divisions.

The new plan has made possible a change in the principles underlying the selection of papers for inclusion in the TRANSACTIONS. Under the old plan, publication was delayed by the custom of printing but once a year, and this delay, combined with the expense, limited the choice of papers to a relatively few which were considered to be of permanent reference value. Much valuable material which could not be presented in the Society's journal, *Mechanical Engineering*, was therefore excluded from publication.

Under the new plan a member of the Society may register in any three professional divisions and may receive, without cost, the sections of the TRANSACTIONS which are sponsored by these divisions. The periodical publication of these sections in magazine form has a feature of timeliness which justifies the inclusion of papers of possible temporary interest. It also offers a medium for the printing of papers of specific interest to a single group of members without the cost of distribution to all.

The new policy, combined with increased activity on the part of the professional divisions, has made available a much greater number of engineering papers, as may be judged by comparing volume 48 (1926) with its 38 papers and the present volume with its 257 papers.

COMPLETE TRANSACTIONS FOR DEPOSITORIES AND LIBRARIES

For permanent record and for reference use in libraries, and in the Society's depositories all over the world, a number of sets comprising all of the sections of TRANSACTIONS have been provided. When each section of the TRANSACTIONS was printed, extra impressions were laid aside, and these have been bound in the two books which form parts I and II of volume 49-50.

VOLUMES 49 AND 50 PUBLISHED TOGETHER AS VOLUME 49-50

The valuable feature of a shorter time interval between the presentation of a paper and its publication under the new plan made it possible to publish the papers which would have comprised volumes 49 (1927) and 50 (1928) under the old plan simultaneously during 1928 without delaying the appearance of the 1927 papers. (Under the old plan volume 49 would have appeared in book form in the summer of 1928.)

The division of the complete TRANSACTIONS into two books known as parts I and II is for convenience in binding and does not differentiate volumes 49 and 50. No differentiation exists. The combined volume is known as volume 49-50 (1927-1928). In numbering the papers in accordance with the scheme outlined below, all papers are referred to as of volume 50.

NUMBERING OF PAPERS AND ARRANGEMENT IN COMPLETE TRANSACTIONS

The definite sponsorship of every paper by one of the professional divisions has led to the abandonment of the former system of numbering papers serially. The new system designates each paper by a symbol composed of key letters and significant numbers. The letters refer to the section of TRANSACTIONS to which the paper is assigned. Thus AER refers to the Aeronautic section, IS to the Iron and Steel section, etc. The first number which follows the letters is the volume number, as volume 50, and the second is the serial number within the section of the paper in question. Thus FSP-50-3 indicates that the paper so numbered is a part of the Fuels and Steam Power section of volume 50 of TRANSACTIONS, and is the third paper of that series. The arrangement of papers in the bound TRANSACTIONS is alphabetical by sections, and numerical within the section. All papers of the Management section, for instance, will be found together in numerical order under the symbol MAN.

HOW TO USE THE INDEX

In each of the two books forming parts I and II of volume 49-50 will be found a complete index to both parts of the volume so that either may be consulted. Reference to the individual items comprising the index is by paper number, explained above, the page number being included in parentheses. Thus MH-50-8 (15) means that the reference is to be found in the Materials-Handling section, vol. 50, paper no. 8, page 15. In part I of the bound volume are all papers belonging to sections whose key letters are between AER and FSP, and in part II all those whose key letters are between HYD and WDI.

CONCERNING BLANK PAGES

In order to make the papers comprising the TRANSACTIONS available as reprints, it is necessary to print them so that the number of pages they contain is a multiple of four. This accounts for the blank pages which will be found scattered throughout the volume.

THE PUBLICATIONS COMMITTEE.

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NOTE: (D) denotes Discussion. Sections of Transactions are arranged alphabetically, the following symbols being used: Part I—AER (Aeronautics); APM (Applied Mechanics); FSP (Fuels and Steam Power). Part II—HYD (Hydraulics); IS (Iron and Steel); MAN (Management); MH (Materials Handling); MSP (Machine-Shop Practice); OGP (Oil and Gas Power); PET (Petroleum); PI (Printing Industries); RR (Railroads); TEX (Textiles); WDI (Wood Industries). Items in Index refer to section, volume, number of paper, and page. Thus MAN-50-4(5) refers to Management Section, vol. 50, paper no. 4, page 5.

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